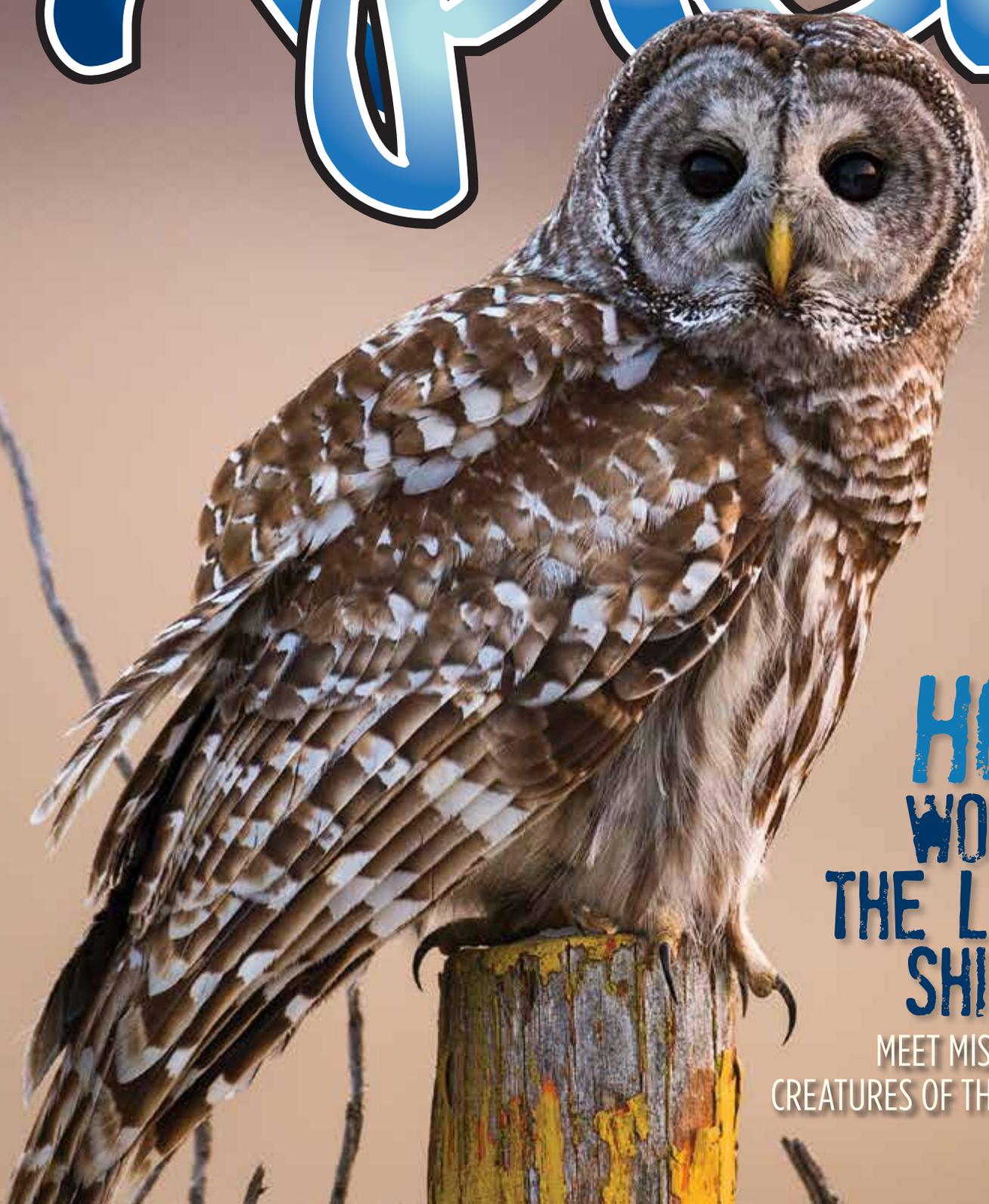




January/February 2017

Xplor



**HOO
WORKS
THE LATE
SHIFT?**

MEET MISSOURI'S
CREATURES OF THE NIGHT

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These wild things come out after dark.

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Sometimes you have to be sneaky to survive.

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It's berry chilly out here! An **eastern bluebird** fuels and fluffs up to combat the cold.
📷 by Noppadol Paothong



Xplor

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ON THE COVER

Barred Owl

by Noppadol Paothong

GET OUT!

FUN THINGS TO DO
AND GREAT PLACES
TO DISCOVER NATURE



Bald eagle

In January, peak numbers of bald eagles gather to hunt and scavenge for fish near lakes and rivers. **PLAN A FAMILY OUTING** to spot some. Browse mdc.mo.gov and search "eagle days" to find events and locations where you can watch eagles hunting in the wild.



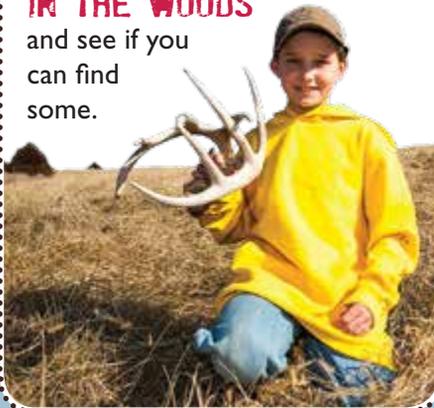
Christmas is over, but your tree still has some holiday spirit left in it. Get a grown-up to help you **TUCK YOUR UN-DECORATED CHRISTMAS TREE** near your birdfeeder or sink it in your pond. The birds or fish will appreciate the gift of extra cover.

LISTEN FOR GREAT HORNED OWLS hooting at night. They start calling for mates in January. And don't miss *Creatures of the Night* on Page 6 for more info on some fascinating creatures that work nature's night shift.



Great horned owl

White-tailed bucks start shedding their antlers this time of year. **TAKE A HIKE IN THE WOODS** and see if you can find some.



LISTEN FOR CHORUS FROGS, which start calling in February. Their calls sound like when you run your thumbnail across the top of a pocket comb.

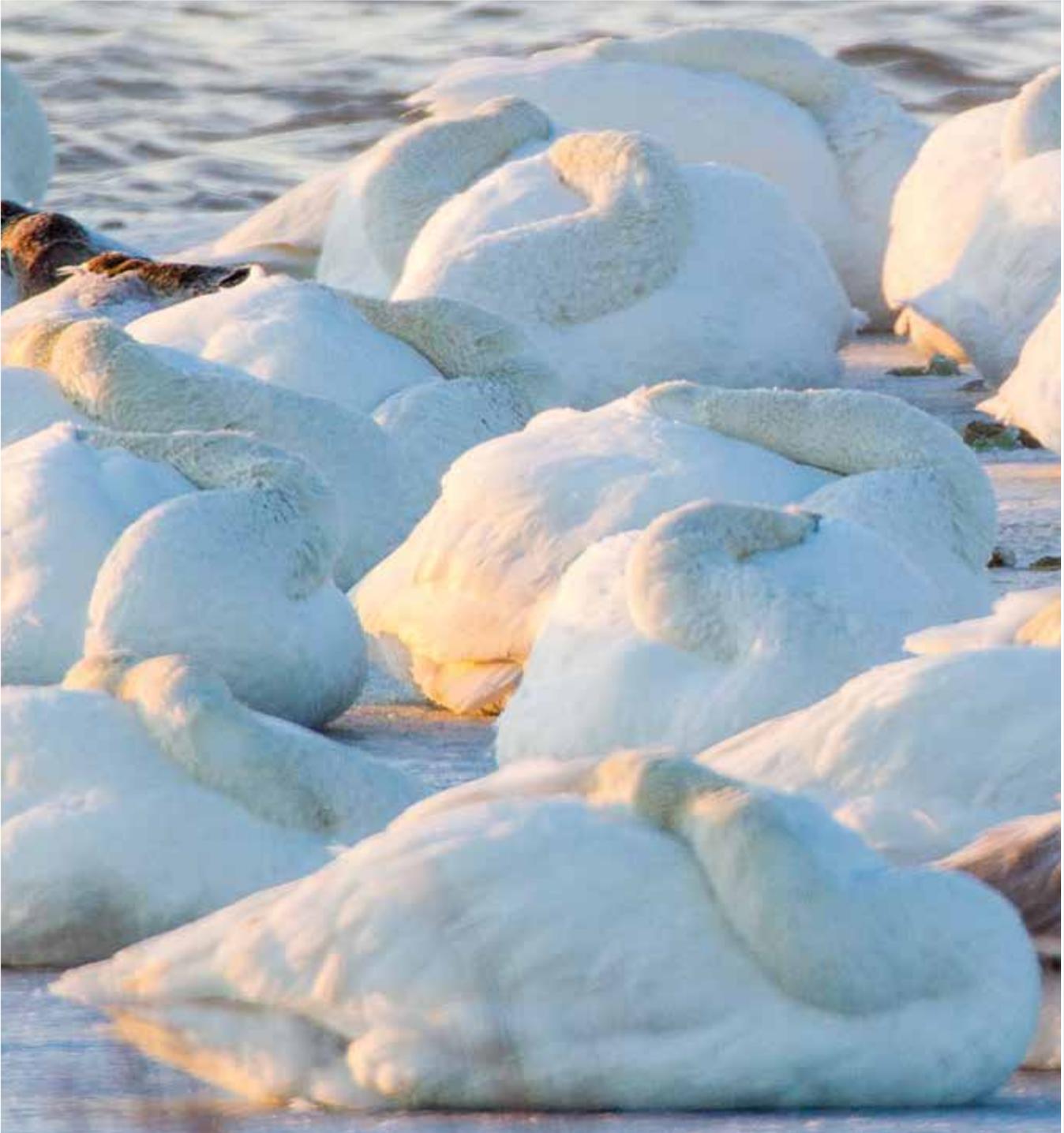


Snowy days are great for **SPOTTING ANIMAL TRACKS**. Get outside and see how many different kinds of bird and mammal tracks you can find.



WHAT IS IT?

DON'T KNOW?
Jump to Page 20 to find out.



- ❶ We can fly all night with our necks outstretched.
- ❷ We sleep all white with our necks crooked down.

- ❸ We look like rocks lying under the snow.
- ❹ But wake us up, and our “horns” we will blow.



Into the WILD mighty oak

Every tree is a tower of life. Lie down beside a mighty oak and gaze up into its branches. You might be surprised at the number of wild creatures you find.



LOOK

White-breasted nuthatches search the nooks and crannies of tree trunks for insects to eat. The nimble little birds start at the top of a tree and work their way down, usually going headfirst.



Oyster mushrooms can be found growing on trees (usually dead ones) at any time of the year. Look for the shelf-like fungus after it rains. Although oyster mushrooms are delicious, never, ever dine on any mushroom unless you're sure it's safe to eat.



What Happened Here?

Pileated woodpeckers hammer out huge rectangular holes while searching for ants and other insects to eat. Abandoned holes become homes for squirrels, bats, screech-owls, wood ducks, and many other animals.



What Happened Here?

This hole was made by an acorn weevil. The tiny beetles use their long noses to drill into acorns. Female weevils eat part of the inside of the acorn, then lay eggs in the cavity. The babies, called grubs, hatch after the acorn falls to the ground.



Tufted titmouse:
A fussy, scratchy
tsee-day-day-day

Blue jay:
A scolding thief,
thief, thief

Gray squirrel:
Cherk, cherk,
cherk

Listen
Many animals sound
the alarm when they spot
danger. How many of these
warning calls have you heard?

Northern cardinal:
A metallic chip,
chip, chip

American crow:
Caw, caw, caw



Eastern comma



Mourning cloak

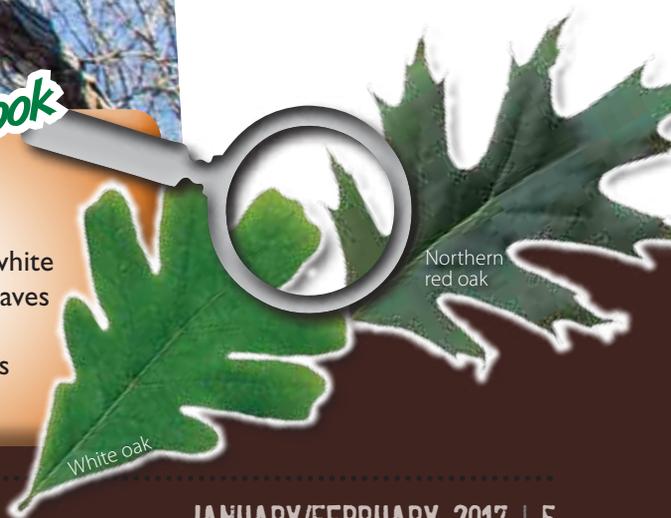
LOOK
On warm winter days, keep an eye
out for comma and mourning cloak
butterflies. These hardy insects
hibernate during the depths of winter
and wake up when temperatures
rise. Their fluttery flight is a sure
sign spring will be here soon.

Did You Know?

Some oak
trees keep their
dead, brown leaves
attached to their branches
all winter long. In the spring,
new leaves start to grow,
which finally pushes the
dead leaves off.

Take a Closer Look

Missouri is home
to 19 species of oaks,
divided into two main
groups: red oaks and white
oaks. Red oaks have leaves
with pointed lobes.
White oaks have leaves
with rounded lobes.



Northern
red oak

White oak



CREATURES of the Night

by Bonnie Chasteen

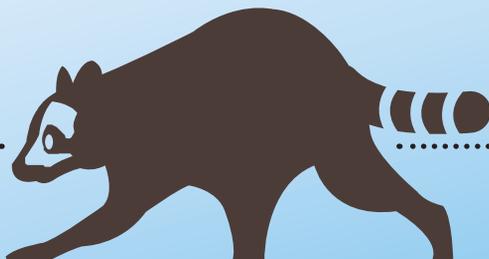


When the sun goes down, many animals (like us humans) go to sleep for the night. But others are just starting their day. They find food, mate, raise their young, defend their territories, and escape predators between dusk and dawn. We call these animals *nocturnal*. They escape our notice if we don't know what to look and listen for. Nighttime is a great time to explore nature. Ask an adult to take a walk with you when the sun goes down to see, hear, and maybe even smell some of Missouri's creatures of the night.

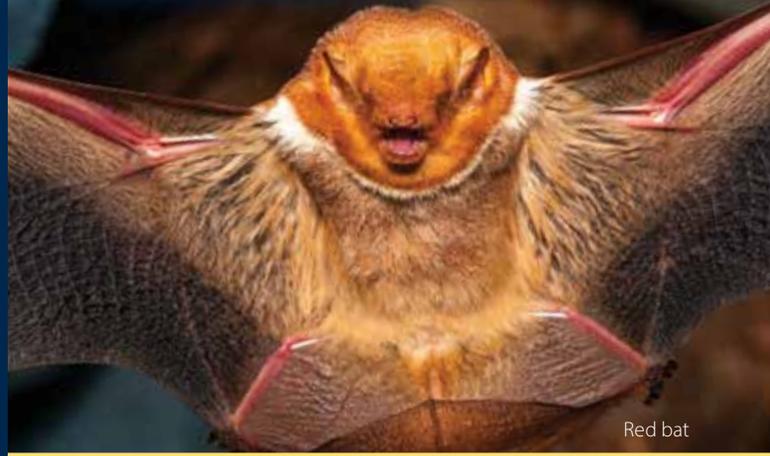
But First, Make This Field Guide



- 1 Cut out the next two pages along the dotted lines.
- 2 Fold each cutout down the middle.
- 3 Stack the cutouts so the pages are in numerical order.
- 4 Staple the cutouts together along the middle between pages 8 and 9.
- 5 Grab a grown-up and a flashlight, and take this guide outside at night to spot and ID what you see.



You Discover
NOCTURNAL
ANIMALS



Red bat

**A Mini Field Guide to Critters
 That Work The Night Shift**

Striped skunk



This fluffy, cat-sized mammal has a big bushy tail and two white stripes along its back.

Look and Smell: Skunks follow their noses as they hunt and scavenge for insects, small rodents, and dead animals. You may smell them before you see them. When threatened (or hit by a car), they produce a strong scent from glands at the base of the tail. Before spraying, skunks usually stamp their feet and hold their tail high in the air. If you meet a skunk, give it plenty of room, and it will do the same for you.

Where: Forest borders, brushy field corners, fencerows, and open grassy fields near water statewide.

When: Skunks come out in the evening and early morning hours, usually resting at night and sleeping during the day.

**Tips for Watching Wildlife
 at Night**

Be safe

Scout your observation area with a hiking buddy in the daytime.

Be equipped

Bring a flashlight with fresh batteries. Try covering the lens with red plastic wrap fastened with a rubber band. Most night animals can't see red light. Take along an audio recorder for catching night sounds.



Be comfortable

Wear sturdy shoes, and carry a canvas bag with insect repellent, a water bottle, and snacks. When you find a good place to stop, you can use the items and sit on the bag.



Be quiet

And patient and still. It's best to settle down quietly in one place for 20–30 minutes. It takes that long for your eyes to adjust to darkness.

A Sense of the Dark

Sight

Three special eye adaptations help nocturnal animals see in the dark. First, they have very large eyes. Second, their eyes have more rod cells that allow them to detect shapes, movement, and detail in dim light. Third, they have a mirrorlike layer behind the retina that makes objects seem brighter at night. This layer also creates “eye shine” — when an animal’s eyes reflect light in the dark.

Sound

In the dark, sharp ears can make the difference between life and death. Nocturnal prey animals like mice have large ears to detect the approach of predators. But nighttime predators also have exceptional hearing.

Smell and Touch

Most mammals can smell far better than humans. Their noses detect information about nearby food, possible mates, and lurking predators (or wildlife watchers).

Night creatures also use touch to gather information. Pressure on sensitive whiskers, fur, feathers, and paw pads helps them navigate in the dark. Some snakes and spiders detect vibrations or body heat to locate their prey.



Raccoon paws

2

Red bat



These medium-sized bats don’t cluster in caves like many other bats. They spend their days hanging alone from tree branches. At night, they fly off to eat lots of insects.

Look: During the day, you might spot a red bat hanging by one foot in dense foliage. When dusk falls, search the sky for their flickering silhouettes.

Where: Statewide in forests, along the edge of woodlands, and near hedgerows.

When: Red bats feed in the early evening hours any time the temperature rises above 50 degrees.

15

Katydid



With green, leaf-shaped wings, this relative of crickets and grasshoppers avoids daytime predators by hiding high in the treetops, where it feeds on leaves.

Listen: On hot summer nights, males rasp their finely textured wings together, creating a loud *Katydid!* *Katy didn't!* to attract mates.

Where: Treetops statewide.

When: July–October

4

Raccoon



You can’t mistake this stocky little mammal for any other. It has a distinctive black mask, bushy ringed tail, and naked black hands and feet. Males and females look alike.

Look and Listen: Raccoon families are fun to watch, and their chatter sounds like a mix of frog calls, bird chirps, and pig grunts.

Where: Statewide, usually in wooded areas near water. They also live in towns, where they can become pests at smelly garbage cans and pet-food bowls.

When: You may spot them year-round, but you have a better chance of watching families at play from late spring through fall.

13

Opossum



This is America's only marsupial (*mar-SOUP-ee-uhl*). The mother carries blind, incompletely developed babies in a belly pouch until they can see and eat on their own.

Look: Opossums have long, pointed snouts. Their ears are small and slightly rounded. All four paws are naked and handlike. The tail is naked and flexible enough to wrap around tree limbs, allowing the possum to hang upside-down.

Where: Almost anywhere in Missouri, especially in wooded areas near farms or in towns near smelly garbage cans and pet-food bowls.

When: Year-round, except when it's really cold and snowy.

12

Bullfrog



Missouri's largest frog has been known to reach 8 inches from snout to hind end. This big amphibian stalks the night, eating nearly anything it can get in its mouth, including insects, spiders, crayfish, fish, birds, small mammals, and other bullfrogs!

Listen: The bullfrog's call is a deep, throaty *jug-a-rum, jug-a-rum* that can be heard from more than half a mile away.

Where: Just about any place that holds water, anywhere in the state. Missouri's most aquatic kind of frog spends most of its time in or near lakes, ponds, rivers, swamps, and marshes.

When: During breeding season, mid-May through June.

5

Coyote



This member of the dog family can be gray or dull yellow. It's bigger than a fox but smaller than a wolf. A coyote's big ears, sharp eyes, and long nose help detect enemies and prey.

Listen: A long burst of howling and yipping tells you coyotes are in the area.

Where: Throughout the state, but most common in northern and western Missouri grasslands.

When: You may see it during the day, but you're more likely to hear it at night. Howling peaks during the breeding season in February and March.

10

Gray treefrog



This little frog has warty skin that varies in color from green to gray to brown. The sticky pads on its fingers and toes help it cling to trees and other vertical surfaces like your window screens!

Listen: The gray treefrog's call is a musical trill.

Where: These treefrogs live in wooded areas along rivers and swamps. Because they also rest in the nooks and crannies of farm buildings, porches, decks, or empty birdhouses, you may hear them near your house.

When: During breeding season from early April to early July.

7

Luna moth



Luna moths have large green wings (up to 4 inches wide) with eyespots that trick predators into thinking they are scary rivals. Adults don't eat at all and live only a few days to mate and lay eggs.

Look: The word *luna* is Latin for “the moon.” It’s no wonder this beautiful moth comes out after the sun goes down.

Where: In town it often flutters around porch lights. In the wild, it lives in and near woodlands, where their larvae can feed on walnut, hickory, persimmon, and sweet gum trees.

When: Adults appear from early April through August. Around midnight, females “call” males by emitting airborne chemicals called pheromones (*FER-uh-moans*), which the male’s highly sensitive, featherlike antennae can pick up.

6

Whip-poor-will



These ground-nesting birds are related to the nighthawk. They’re about the same size and look similar, but in flight, the whip-poor-will’s wings and long tail appear rounded instead of pointed. Their speckled feathers blend into the forest floor, keeping them hidden during the day.

Listen and look: The easiest way to tell a whip-poor-will from a nighthawk is by its location and its call. The whip-poor-will prefers to live in the woods, and it calls its name loudly hundreds of times a night. You won’t see it unless you’re hiking in the woods and happen to startle it from its nest.

Where: Statewide in forests and open woodlands.

When: During breeding season April through September.

11

Barred owl



This is Missouri’s only large (21 inches from beak to tail tip), brown-streaked, dark-eyed owl. As with most owls, barred owls keep populations of prey animals such as rodents and reptiles in check.

Listen: Though you won’t often see this owl, you can easily identify its call. Its classic series of hoots sounds like, “*Who cooks for you? Who cooks for you all?*”

Where: Statewide along forested streams, lakes, rivers, and swamps, particularly in deep woods with big timber. Also in wooded parks and neighborhoods with large, dead trees.

When: Year-round, but more frequently during their breeding season, February through March.

8

Nighthawk



This night-flying bird has a white mark on the underside of each wing, and in flight its wings appear pointed and the tail appears forked.

Listen and look: If you hear a harsh, nasal *peent* overhead at dusk, look up. You’ll see a nighthawk flying erratically with quick flaps, glides, and darting movements to catch flying insects. The male’s courtship display is dramatic. He dives straight toward the ground, his feathers making a loud whirring sound, then swoops back into the sky.

Where: Around city streetlights (which attract flying insects).

When: Arrive to Missouri in late April; in September, waves of them pass through as they migrate to South America.

9



Animal Tricksters

by Matt Seek

Sometimes you have to be sneaky to survive.

When a predator catches an opossum by surprise, the opossum often collapses, appearing to be dead. Its breathing slows down. It slobbers, blows snot bubbles out of its nose, and it may even release a slimy green fluid from its rear end that makes the opossum smell even worse than usual. *Yuck!*

Most predators lose their appetite at this point and leave the opossum alone.

This behavior — called “playing possum” — is a useful trick that helps opossums survive. But these furry fakers aren’t the only animals with a prank up their paws. Read on to learn about other animal tricksters.

Fakey Snake

Sometimes called a puff adder, the harmless **hog-nosed snake** sure looks deadly. When it feels threatened, it hisses loudly and flattens its head like a cobra. But the snake is a big fake. If its bluff fails, the hog-nose squirms around, rolls onto its back, flops out its tongue, and pretends to be dead. If left alone, the sneaky snake will slowly turn right-side-up, peek around to make sure it's safe, and then slither away to shelter.



Humbug

Bold colors are nature's way of saying, "Back off, I'm dangerous." Take, for example, this bumblebee. The black and yellow bands on its body warn other animals that it packs a painful sting. But here's where it gets tricky. This isn't a bee. It's a **clearwing moth**, and it can't sting. Pretending to be a bumblebee helps the tasty moth avoid getting gobbled by birds. The moth's wings even buzz like a bumblebee when the moth hovers over flowers.



Bird-Dropping Disguise

Wait a second. Did that bird dropping just move? This **giant swallowtail caterpillar** will turn into a beautiful butterfly someday. But as a baby it looks like, well, poop. And that isn't an accident. Birds eat caterpillars the way baseball fans snarf down hotdogs. But what bird would eat a caterpillar that looks like this? A swallowtail's disguise is so good that young caterpillars don't even try to hide. They usually rest in plain sight on top of leaves — exactly where bird droppings would be expected.



Cattail Camouflage

If birds played hide-and-seek, **American bitterns** would win every time. When predators come prowling, a bittern doesn't flinch a feather. Instead, the brown-streaked bird freezes and points its beak skyward. Sometimes a bittern will rock back and forth, hoping to look like a cattail swaying in the breeze. Bitterns hide so well that they are more often heard than seen. Their mating call — a booming *unk-a-lunk* — can carry half a mile across the marshes where they live.





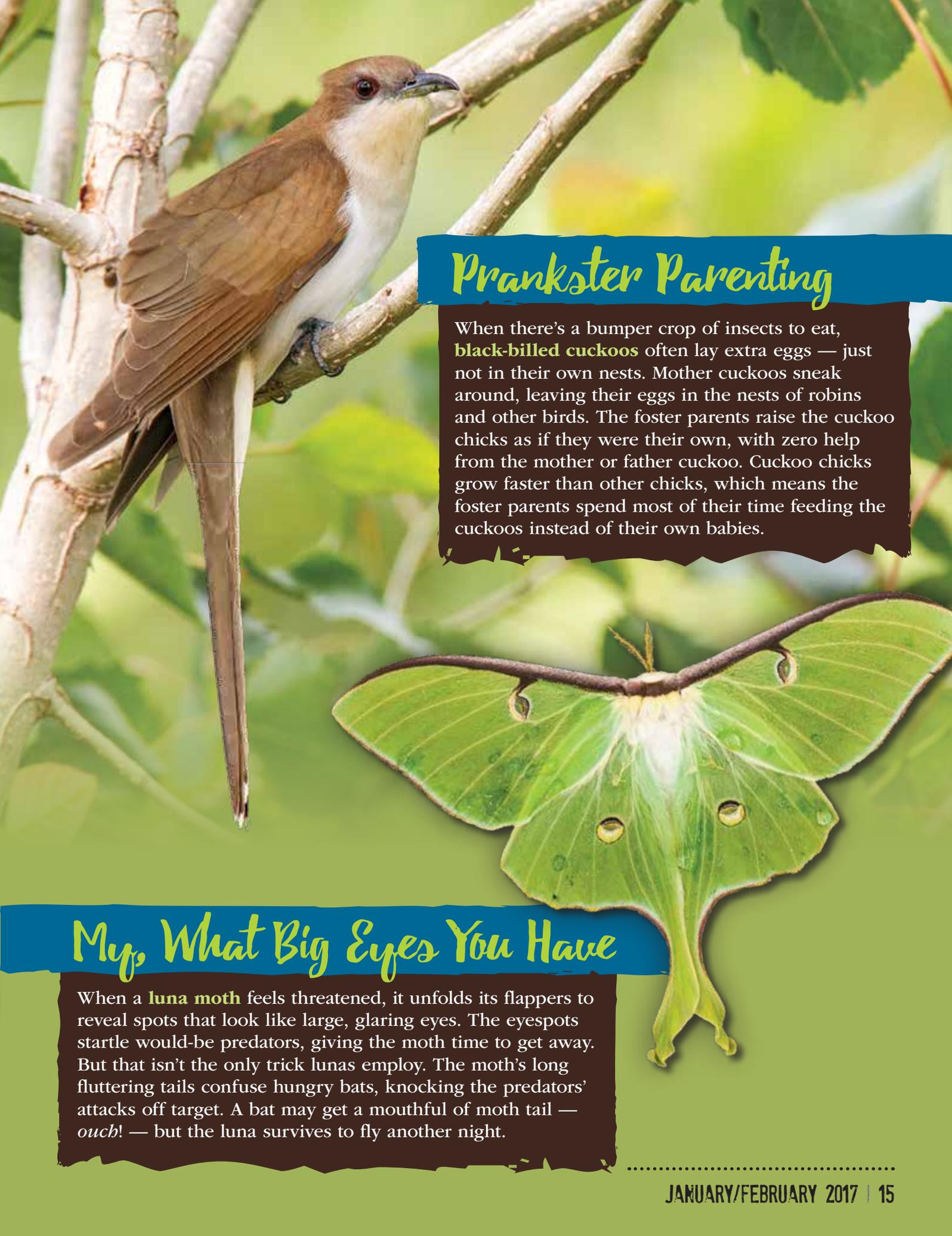
Tail Trickery

When a snake bites a **five-lined skink** on the tail, the little lizard leaves its behind behind. By flexing special muscles, the skink snaps off its own back end. The muscles also pinch blood vessels shut so the lopped-off lizard doesn't bleed to death. While the detached tail twitches, the much-shorter skink slinks to safety. It takes three or four months for the skink to grow a new tail, and it's often shorter than the original.

Take a Break

If a hungry coyote gets too close to a **killdeer's** nest, the mom or dad killdeer runs away while pretending to have a broken wing. The bird puts on quite an act, thrashing around and dragging its wing pitifully. The coyote follows the "injured" actor, hoping to score an easy meal. But when the predator has been led far away from the nest, the killdeer quickly "heals" and flies to safety.





Prankster Parenting

When there's a bumper crop of insects to eat, **black-billed cuckoos** often lay extra eggs — just not in their own nests. Mother cuckoos sneak around, leaving their eggs in the nests of robins and other birds. The foster parents raise the cuckoo chicks as if they were their own, with zero help from the mother or father cuckoo. Cuckoo chicks grow faster than other chicks, which means the foster parents spend most of their time feeding the cuckoos instead of their own babies.

My, What Big Eyes You Have

When a **luna moth** feels threatened, it unfolds its flappers to reveal spots that look like large, glaring eyes. The eyespots startle would-be predators, giving the moth time to get away. But that isn't the only trick lunas employ. The moth's long fluttering tails confuse hungry bats, knocking the predators' attacks off target. A bat may get a mouthful of moth tail — *ouch!* — but the luna survives to fly another night.

THIS ISSUE:

AMERICAN KESTREL VS PRAIRIE VOLE

Illustrated by David Besenger



Sharp Eyes

are great for spotting small prey scurrying through the grass or popping up through the snow.

Hover-Craft Wings

Kestrels hover like mini helicopters over grassy fields where mice and voles tunnel and feed.

Sharper Talons

deliver sudden death. Strong, clawlike toes pierce and crush prey in an instant.

Runway Runner

Voles build systems of tunnels above and below ground. In winter, voles are more active during the day.

Snow Survivor

Voles must eat their body weight in food every day to survive. Snow can hide them as they search for seeds, bark, roots, and dried berries.

AND THE WINNER IS...

That kestrel is close, but the little vole dives under the snow. When the snow melts, look out! The kestrel wins, talons down.

STRANGE but TRUE!

YOUR GUIDE TO ALL THE
UNUSUAL, UNIQUE, AND
UNBELIEVABLE STUFF
THAT GOES ON IN NATURE

Pouch potatoes: **OPOSSUMS** are marsupials, which means they raise their babies in a pouch. Most marsupials, such as kangaroos and koalas, live in Australia. But in Missouri, the only mammal packing a pouch is the opossum.



For **RED-TAILED HAWKS**, love has its ups and downs. Courting red-tails fly high into the sky, lock their talons, and then plummet toward the ground. Just before they go splat, they let go of each other and swoop back up.



“D” stands for “danger.” When a **CHICKADEE** spots a predator, it chirps an alarm call to warn other birds: *chicka-dee-dee-dee*. The more *dees* in the call, the more dangerous the threat.



Wouldn't it be great to have eyes in the back of your head? **AMERICAN WOODCOCKS** come close. Their peepers are positioned far back on their heads. This allows them to keep an eye out for danger as they search the ground for food.



When a deer drops its **ANTLERS**, they don't go to waste. They become “vitamins.” Antlers contain minerals such as calcium. Rabbits and rodents gnaw on antlers to get the minerals, which they use to build strong bones and teeth.



Oh, grow up! Although baby **BALD EAGLES** grow flight feathers just a few months after they're born, it takes young eagles about five years to get the crisp white head and tail of an adult eagle.



MAPLE SAP — the sugary liquid that gets turned into pancake syrup — flows best in mid-February. Warm days and cold nights cause the sap to flow.



Most **EASTERN RED BATS** migrate south to avoid winter weather. But some red bats stick around. They keep from becoming *batsicles* by sleeping under dead leaves on the forest floor when temperatures fall below freezing.



HOW TO

Build a Survival Shelter

You're lost in the woods. It's getting dark. It's cold. You think it might rain. What do you do? First, take a deep breath. Everything's going to be OK. Just stay calm, stay put, and find shelter.



PUT UP A RIDGEPOLE

Shelter traps heat to keep you warm and shields you from wind, rain, and snow. Lucky for you, nature often provides ready-made shelters. Look for a cave, an overhanging bluff, a fallen tree, or a bushy evergreen to hunker under. If you can't find any of these, build a lean-to. **Here's how.**

FIND A BUILDING SITE

Nothing drains body heat faster than being wet, so pick the driest place you can find. If a cold wind is blowing, choose a spot shielded by trees or rocks. Look for a location that has plenty of building materials (dead branches and leaves) nearby. That way, you don't have to waste time and energy searching for them.

Find a pair of trees that are just a little farther apart than your body length. (You should be able to lie down comfortably between them.) Gather a thick, sturdy branch that's a little longer than the distance between the trees. This will be your ridgepole. Tie the ridgepole to each tree using a square lashing. If you don't have rope, use vines or your shoe laces, or prop the ridgepole in the branches of the trees. The ridgepole should be about 4 feet off the ground.



HOW TO TIE A SQUARE LASHING



1. Tie one end of your rope around the ridgepole.
2. Wrap the free end of the rope around the back side of the tree under the ridgepole, around the front side of the ridgepole on the opposite side of the tree, around the back side of the tree above the ridgepole, and around the front side of the ridgepole on the side where you started. Make two or three complete wraps. Keep each wrap tight.
3. Wrap the rope between the ridgepole and the tree, around the wraps you just made. Go around two or three times.
4. Tie off the rope around the ridgepole.



PROP UP THE ROOF POLES

Gather dead branches that are at least 6 feet long and at least 1 inch thick. You'll need quite a few. Prop the branches on the ridgepole about an inch or two apart. Keep the angle of the roof fairly steep. You want to be able to pile leaves on the roof, but you also want the roof to shed rain and snow easily.



PILE ON LEAVES

Pile dead leaves, cedar branches, and other debris onto the roof poles. Start at the ground and build up. Try to pile a layer of leaves over your roof that's at least 1 foot thick all the way up.



BUILD A BED

You'll lose lots of body heat to the cold ground, so pile a bed of dry leaves inside your lean-to. Aim for a bed that's at least 1 foot thick. Lay a branch along the side of your bed to hold the leaves in place.



XPLOR MOR

COYOTE CODE

Coyotes sure are chatty critters. You often hear them just after sunset: a lonely howl ending in a bunch of barks and yips. And when one coyote starts howling, nearby coyotes usually join in. Although it sounds spooky, there's

nothing to fear. Howling is how coyotes talk to each other. A coyote might howl to say, "I'm lonely," "Stay away," or "Let's find some rabbits to eat."

WHAT ARE THESE COYOTES SAYING TO EACH OTHER?

Use the key to crack their code.

___ ___ ___ ___
HYH YYH YY HYH?

___	___	___	___	___	___	___		
HYH	YYH	YY	HYH	YYB	YH	YYB		
___	___	___	___	___	___	___	___	___
BH	BYH	YB	YBY	BH	HHB	BH	HYH	YB
___	___	___	___	___	___			
HHH	YY	HHB	HYH	BH				
___	___	___	___	___	___	___	___	
HYH	YYH	YB	BH	HYH	YYH	YB	BHH?	

WHAT IS IT?

— FROM PAGE 3 —

like toy trumpets. They honk to keep their family together, defend territory, or sound an alarm. A great place to see them is at Swan Lake National Wildlife Refuge in Chariton County, especially during spring migration.





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COYOTE KEY

Coyotes have quite a vocabulary. They bark, yip, whimper, growl, and howl. In fact, scientists have recorded 11 different kinds of sounds coyotes make. Each sound means something different.

This key is based on **yips** (Y), **barks** (B), and **howls** (H). Of course, real coyotes don't use such a complicated code.

A - YY	E - YB	I - YH	M - BBY	Q - BBH	U - HB	Y - HHB
B - YYY	F - YBB	J - YHH	N - BYY	R - BHH	V - HHY	Z - HBB
C - YBY	G - YHY	K - BBB	O - BH	S - HHH	W - HYY	
D - YYB	H - YYH	L - BYB	P - BHB	T - HYH	X - HBH	

Answer: What's it going to the other? Howl's it going?

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FREE TO MISSOURI HOUSEHOLDS

CRITTER CORNER

Hooded Merganser



These sporty little ducks are male hooded mergansers. They don't always cruise with their fancy hoods up — they can also lay them flat against their necks. Here, they're probably showing off for nearby lady mergansers. Hooded mergansers are rare winter visitors to Missouri, but you might see them on just about any wooded stream or lake this time of year. They dive underwater to snag their prey, and their serrated bill helps them grab slippery fish.